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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/433,475	11/04/1999	HARU KOMOOKA	909.0004USU	2618

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EXAMINER
NGUYEN, PHU K

ART UNIT	PAPER NUMBER
2671	8

DATE MAILED: 08/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/433,475	Applicant(s) KOMOOKA et al.	
	Examiner Phu K. Nguyen	Art Unit 2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ___3___ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jun 4, 2002* _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-9* _____ is/are pending in the application.

    4a) Of the above, claim(s) *none* _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-9* _____ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

    a) ☐ All b) ☐ Some* c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    *See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

1.   The abstract of the disclosure is objected to because it contains the language that can be

implied (e.g., "of the present invention", "prferably", ..). Correction is required. See MPEP §

608.01(b).

2.   Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a

separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed

150 words in length since the space provided for the abstract on the computer tape used by the

printer is limited. The form and legal phraseology often used in patent claims, such as "means"

and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist

readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the

title. It should avoid using phrases which can be implied, such as, "The disclosure concerns,"

"The disclosure defined by this invention," "The disclosure describes," etc.

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

4.   Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stroyan

(5,993,333) in view of Fossum (5,220,646).

As per claim 1, Stroyan teaches (col.4, ln. 46-47) a three-pass method for drawing an image. As per the first step of claim 1, Stroyan teaches (fig.2 and col. 4, ln. 46-48) the drawing of opaque objects first. As per the second step of claim 1, Stroyan teaches (fig.2 and col. 4, ln. 54-57) disabling the z-buffer write and drawing a transparent polygon. As per the third step of claim 1, Stroyan teaches (fig. 2 and col. 6, ln. 24-27) drawing a transparent polygon.

Fossum teaches (fig. 2) a system wherein a z-buffer is enabled after being being disabled to draw a polygon.

Stroyan does not teach that in the third step the z-buffer is enabled for drawing the polygon. However, it would have been obvious to one of ordinary skill in the art to combine the systems of Stroyan and Fossum to yield a system wherein the z-buffer can be re-enabled for the third pass, because by enabling the z-buffer for the third pass, it is possible to draw and blend multiple transparent objects that are closer than the opaque object.

Stroyan does not specifically use the term "semi-transparent", as in the present claim. However, it would have been obvious to one of ordinary skill, because in the computer graphics art transparent and semi-transparent are treated identically, because a truly transparent object is simply an object with no color that is blended whatever is behind it, and a semi-transparent object is a colored object that is blended with whatever is behind it.

As per claim 2, Stroyan teaches (fig. 2) the use of alpha blending when blending a transparent object with an opaque object.

As noted above, Stroyan does not specifically use the term "semi-transparent", as in the present claim. However, it would have been obvious to one of ordinary skill, because in the computer graphics art transparent and semi-transparent are treated identically, because a truly transparent object is simply an object with no color that is blended whatever is behind it, and a semi-transparent object is a colored object that is blended with whatever is behind it.

As per claim 3, Stroyan teaches (fig.1) a system comprising a z-buffer (126), a frame buffer (114) and rendering method (126).

As per claim 3, Stroyan teaches (col. 1, ln. 45-49) the z-buffer algorithm in which depth information can be compared to determine if the current it is closer than the information stored in the z-buffer.

As per claim 3, Stroyan teaches (col.4, ln. 40 –50 and col.4, ln. 51-53) that the rendering method deraws and blends pixels.

Fossum teaches (fig. 2) a system wherein a z-buffer can be enabled or disabled.

Stroyan does not teach that the rendering method is capable of selecting either to output the data while updating the z-buffer or not updating the z-buffer. However, it would have been obvious to one of ordinary skill in the art to combine the systems of Stroyan and Fossum to yield a system wherein the z-buffer can be re-enabled for the third pass, because by enabling the z-buffer for the third pass, it is possible to draw and blend multiple transparent objects that are closer than the opaque object.

As per claim 4, Stroyan (fig. 1 and col. 4, ln. 34-36) teaches a display system for displaying computer graphics.

Stroyan does not teach that the graphic data is outputted directly from the frame buffer. However, it would have been obvious to one of ordinary skill, because the frame buffer in the graphic arts is generally storage for holding the visible frame before it is outputted to a display device.

As per claim 5, Stroyan teaches (fig. 2) the use of alpha blending when blending a transparent object with an opaque object.

As noted above, Stroyan does not specifically use the term "semi-transparent", as in the present claim. However, it would have been obvious to one of ordinary skill, because in the computer graphics art transparent and semi-transparent are treated identically, because a truly transparent object is simply an object with no color that is blended with the image of whatever is behind it, and a semi-transparent object is a colored object that is blended with the image of whatever is behind it.

As per claims 6 and 7, Stroyan teaches (col.4, ln. 51-53) that the objects are rasterized. As per claims 6 and 7, Stroyan also teaches (fig. 1) a display device (110) for displaying the rendered graphics.

Stroyan does not specifically teach that the display device (110) must be a raster scan display. However, it would have been obvious to one of ordinary skill in the art, because the rendered objects of Stroyan are rasterized and thus would most efficiently be displayed on a raster scan display.

Claim 8 adds into claim 1 the comparison of the depth information which Stroyan teaches in his Z-buffer algorithm.

Claim 9 adds into claim 3 the details of comparison of the semitansparent object which Stroyan teaches in figure 2.

Applicant's arguments filed June 04, 2002 have been fully considered but they are not deemed to be persuasve. Applicant argues that the combination of two references is just a hindsight of applicant's teaching which is not correct. Both of references teaches the same area of the arts as in Applicant's invention; specifically, both of them deal with the z-buffer algorithm and in a similar steps. It would have been obvious to combine the references for yielding a more efficient algorithm by having several passes for polygon drawing. According, the claimed invention as represented in the claims does not represent a patentable distinction over the art of record.

Conclusion

5.   Any response to this action should be mailed to:

   Commissioner of Patents and Trademarks

   Washington, D.C.   20231

or faxed to:

   (703)-308-9051 (**formal** communications intended for entry), Or:

   (703)-305-9724 (**informal** communications labeled **PROPOSED** or **DRAFT**).

Hand-delivered responses should be brought to:

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Sixth Floor Receptionist, Crystal Park II, 2121 Crystal Drive, Arlington, VA.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu K. Nguyen, whose telephone number is (703)-305-9796 and can normally be reached Monday-Friday from 6:30 AM to 3 PM.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-3900.

Phu K. Nguyen

Patent Examiner

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